



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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January 7, 2000

TO: Internal File

THRU: David Darby, Project Lead 

FROM: Paul Baker, Reclamation Biologist 

RE: Pines Tract Revision, Canyon Fuel Company., SUFCo Mine, ACT/041/002-SR99D-2

SUMMARY:

On July 16, 1999, the Division received a proposal from Canyon Fuel Company to add the Pines Tract Lease. The entire lease is 7171.66 acres, but the Division previously approved adding 160 acres of this with the stipulation that there only be full support mining. The proposal includes a breakout in Muddy Canyon with total new disturbance of 0.017 acres. Revisions to the original submittal were received October 18, 1999.

TECHNICAL ANALYSIS:

ADMINISTRATIVE INFORMATION

OWNERSHIP AND CONTROL

Regulatory Reference: R645-301-112

Analysis:

The application includes no changes to this section. All land within and contiguous to the proposed addition to the permit area is owned by the United States, so no updates to the land ownership section are needed.

Findings:

Information provided in the application is considered adequate to meet the requirements of this section of the regulations. The Division will need to check ownership and control information currently in the mining and reclamation plan with the applicant violator system.

VIOLATION INFORMATION

Regulatory Reference: R645-301-113

Analysis:

The applicant has proposed to update violation information. Information on violations issued prior to 1993 would be eliminated, and more recent violations would be added. The applicant has proposed no other changes to this section of the mining and reclamation plan.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. Violation information will need to be checked in the applicant violator system.

RIGHT OF ENTRY

Regulatory Reference: R645-301-114

Analysis:

The application contains a copy of Coal Lease UTU-76195 which was issued by the Bureau of Land Management to Canyon Fuel Company on September 1, 1999. The application text also includes a new legal description and acreages for the lease. This satisfies the requirements of this section of the regulations.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

UNSUITABILITY CLAIMS

Regulatory Reference: R645-301-115

Analysis:

The application includes no changes in this section. The Division has no indication the proposed addition to the permit area is within an area designated as unsuitable for coal mining and reclamation operations or under study for such designation.

The application identifies no occupied dwellings within the proposed addition. The surface of the plateau does contain unimproved Forest Service roads that could be affected by subsidence, and the Environmental Impact Statement (EIS) considers these effects. The Forest Service did not restrict mining to reduce potential effects on roads, so their decision to allow mining constitutes approval to undermine the roads.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

PERMIT TERM, INSURANCE, PROOF OF PUBLICATION, AND FACILITIES OR STRUCTURES USED IN COMMON

Regulatory Reference: R645-301-116, R645-301-117

Analysis:

The proposed revision will not affect the permit term.

The insurance policy currently on file with the Division meets regulatory requirements.

As soon as advertising is complete, the applicant will need to include a copy of the proof of publication in the application.

There are no changes to the section dealing with facilities or structures used in common.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. As soon as it becomes available, the applicant will need to include a copy of the proof of publication in the application.

ENVIRONMENTAL RESOURCE INFORMATION

HISTORIC AND ARCHAEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: R645-301-411.140

Analysis:

The current mining and reclamation plan, as amended for the recent 150-acre incidental boundary change, contains a report on cultural resources in the Pines Tract. The Pines Tract contains ten previously recorded and twelve newly identified cultural resource sites. Of these, five sites are considered eligible for nomination to the National Register of Historic Places and two are potentially eligible but would need further evaluation to make a definite determination. Also discovered were eight isolated artifacts.

The sites include a historic sawmill and associated buildings and several lithic scatters and rock shelters. The rock shelters are near canyon rims, and the sawmill is in the upper part of the East Fork of Box Canyon.

The current mining and reclamation plan indicates the permit area contains no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System, and none are identified in the application. Therefore, it can be assumed none are in the proposed addition to the permit area.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

VEGETATION INFORMATION

Regulatory Reference: R645-301-321

Analysis:

Appendix 3-9 contains a discussion of plant communities in the lease area, including dominant species and approximate percentage of the area covered by each community. The proposed breakout is in an alderleaf mountain mahogany/Salina wild rye community.

Vegetation communities are mapped on Plate 3-1. This map shows riparian communities along both forks of Box Canyon Creek, but Muddy Creek also has a riparian area that needs to be shown on this map.

The Pines Tract portion of Plate 3-1 has vegetation mapping information directly from the Environmental Impact Statement. The vegetation community classification scheme is different in the Pines Tract compared to the rest of the permit area, and boundary lines do not match between the Pines Tract and Quitchupah areas. According to Plate 3-1, some vegetation communities begin or end abruptly at the boundary. While this is caused by using two different maps, either the map or the text needs to explain the abrupt changes and the difference in vegetation community classifications. The map legend could have a main heading grouping the Quitchupah Tract vegetation communities and another grouping the Pines Tract communities.

The current mining and reclamation plan contains quantitative vegetation information for several areas within the permit area, not just the surface facilities area. The vegetation communities sampled include at least three that are similar to the mountain mahogany/Salina wild rye community in the breakout area, including ponderosa pine/manzanita/mountain brush, mountain brush, and pinyon/juniper/mountain mahogany.

For the breakout, the applicant only plans to disturb 0.017 acres, an area of about 720 square feet or the equivalent of a square with sides of about 27 feet. Considering the small size of the breakout and considering the current plan contains quantitative vegetation information for communities very similar to what exists at the proposed breakout, the Division does not feel additional quantitative vegetation data is needed for the breakout area.

By lease stipulation, the applicant is required to monitor the effects of underground mining on vegetation, and the current mining and reclamation plan contains a plan to do this with color infrared photography every five years.

Findings:

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must supply the following in accordance with:

R645-301-321, Plate 3-1 needs to show the riparian vegetation community near Muddy Creek. It should also be revised to explain differences in vegetation community classifications and the apparent abrupt changes in vegetation communities across the boundary of the Pines Tract.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Wildlife Information

Appendix 3-9 contains a report with a discussion of wildlife use of the area. According to this report, there are about 80 species of mammals, 130 species of birds, eight amphibians, and 17 reptiles that may occur in the Pines Tract area. The lower parts of Box Canyon contain some fish.

Plate 3-2 shows elk ranges, and Plate 3-3 shows deer ranges and raptor nests. It appears Plate 3-2 has an error in the legend. There are two abbreviations, "C-E-CA" and "C-E-WT," that are both shown as being critical elk calving areas. "C-E-WT" appears to be the designation for critical elk winter range.

Assuming "C-E-WT" is critical elk winter range, most of the proposed addition to the permit area contains this habitat. Nearly all of the area is high priority deer winter range.

The proposed addition contains six golden eagle nests and one falcon scrape. According to Plate 3-3, four of the eagle nests were inactive and two were tended, but it is not clear how current this data is. The applicant commits in the mining and reclamation plan to monitor known raptor nests yearly. This statement needs to be modified. Any area with suitable habitat where nests could be adversely affected by subsidence needs to be checked each year for both known and potential new nests.

The current mining and reclamation plan says streams in the area are not of game fish quality, but the Forest Service commented verbally that Muddy Creek and the lower portion of Box Canyon Creek support fish populations. The plan needs to be modified to reflect the best information available about these creeks.

Threatened and Endangered Species

As part of the 150-acre incidental boundary change, lists of threatened, endangered, and sensitive species have been recently updated. The application says the Link Trail columbine is the only threatened or endangered species thought to exist in the Pines Tract. This statement needs to be modified since the Link Trail columbine is not a threatened or endangered species. It is classified as a Forest Service Region 4 sensitive species.

Appendix 3-9 is a report on the vegetation and wildlife of the Pines Tract area, and it discusses threatened, endangered, and sensitive species that might be in the area. All but one of the listed threatened and endangered plant species discussed in the report grow at elevations lower than the mine; they are basically desert species and are adapted to soils derived from geologic formations not found within the Pines Tract area. The only high elevation species is Heliotrope milkvetch (*Astragalus montii*) which is known only from Flagstaff limestone at elevations of 10,990 to 11,320 feet on the Wasatch Plateau. Flagstaff limestone does not outcrop in the current permit area or in the proposed addition, and the highest elevation in the mine area is about 9160 feet on Duncan Mountain.

Table 2 of the report in Appendix 3-9 lists seven sensitive plant species that were investigated for the EIS. Of these, only one, the Link Trail columbine (*Aquilegia flavescens* Var. *rubicunda*), has been documented to occur in the area. Two other species, the Arizona willow (*Salix arizonica*) and canyon sweetvetch (*Hedysarum occidentale* Var. *canone*) have potential habitat in the proposed addition to the permit area, but they have not been found.

Link Trail columbines have been found in both the main and east forks of Box Canyon, and although they have been found in areas with no obvious subsurface water source, they mostly grow in relatively wet areas, often in cracks in the sandstone. The most likely effects to Link Trail columbine plants would be from loss of water. Some of the populations in the main fork of Box Canyon are being monitored for possible effects caused by mining. The east fork has not been surveyed as extensively as the main fork, and it is not known if the applicant documented the location(s) of any population(s).

Longwall mining to the east of the main fork of Box Canyon is expected to occur in 2000, so the effects of this mining on groundwater and on the populations of Link Trail columbines in this canyon should be evident before any mining occurs east of the east fork of Box Canyon.

Monitoring of columbines in the east fork can be contingent on results of monitoring in the main fork, but the application needs to contain a commitment to this effect.

Table 3 in Appendix 3-9 includes ten listed threatened, endangered, and candidate wildlife species that were evaluated for occurrence in the Pines Tract area. These are the same species included in the EIS. Peregrine falcons were included in the analysis, but they are no longer listed as threatened or endangered. They are still protected, however.

Bald eagles could occasionally pass through or roost in the area, but the mine is unlikely to have any negative effects.

According to the EIS, the willow flycatcher has recently been found on the Wasatch Plateau north of the mine area, but it is not known if this was the southwestern willow flycatcher subspecies. The Forest Service reviewed habitats in the project area for the EIS and determined that "... while some habitat does exist in the area, this habitat is not suitable as willow flycatcher nesting habitat."

Except for peregrine falcons which have been documented to nest within about one-half mile of the Pines Tract, none of the other wildlife species in Table 3 is likely to occur in the area. Through water depletions, the mine could potentially adversely affect the four fish species listed, but the increase in the size of the permit area is not expected to increase water consumption.

Spotted bats, northern goshawks, and northern three-toed woodpeckers have been found in the project area, and the Pines Tract contains potential habitat for flammulated owls. All of these are Forest Service Region 4 Sensitive Species.

According to verbal information from the Forest Service, the sage grouse is a Forest Service Region 4 sensitive species that should be included in the list in Table 3-3.

Findings:

Information provided in the proposal is not considered adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must provide the following in accordance with:

R645-301-322, The application says known raptor nests will be checked each year, but any area where subsidence could damage nests needs to be checked for both known and possible new nests.

R645-301-322, Muddy Creek and the lower portion of Box Canyon Creek apparently support a fishery, so any statements in the plan or application contradicting this need to be modified.

R645-301-322, The application indicates the Link Trail columbine is a threatened or endangered species, but it is, instead, a Forest Service Region 4 sensitive species. This statement needs to be modified.

R645-301-322, There appears to be an error in the legend of Plate 3-2 that needs to be corrected.

R645-301-322.200, The application needs to contain a commitment that the applicant will identify and monitor populations of Link Trail columbines in the east fork of Box Canyon if it is determined mining negatively affects populations of this species in the main fork of Box Canyon.

R645-301-322, The sage grouse is a Forest Service Region 4 sensitive species that should be added to the list in Table 3-3.

LAND USE RESOURCE INFORMATION

Regulatory Reference: R645-301-411

Analysis:

Plate 4-1 shows land uses in the area. The land is managed by the Forest Service for multiple uses, including, timber, grazing, wildlife, and mining. These are the same uses identified as occurring in the current permit area.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: R645-301-140

Analysis:

Five of the significant or potentially significant cultural resource sites are in the subsidence area shown on Plate 5-10. These are 42SV 2425, 42SV 2430 (the Elusive Peacock Shelter), 42SV 2432, 42SV 2433, and 42SV 2434. Site 42SV 2425 is a lithic scatter that should not be adversely affected by subsidence. The other sites are all rock shelters or caves that could be adversely affected.

Based on discussions with the Forest Service and the applicant, it appears Plate 5-10 shows a larger subsidence area than would actually occur under the proposed mine plan. Judging strictly from this plate, sites 42SV 2430 and 42SV 2432 are both within the subsidence area. Although this is apparently not correct, the applicant needs to revise Plate 5-10 to show in greater detail the areas that will and will not subside under the proposed mine plan.

The application needs to describe coordination efforts with and present evidence of clearances by the State Historic Preservation Office (SHPO). The Division is aware of, and has participated in, some coordination efforts, but these need to be documented in the application.

Findings:

Information provided in the proposal is not considered adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must provide the following in accordance with:

R645-301-411.140, Based on discussions with the Forest Service and the applicant, it appears Plate 5-10, showing potential subsidence areas, is in error. The applicant needs to show in better detail those areas that will be subsided. If Plate 5-10 is correct and sites 42SV 2430 and 42SV 2432 would be subsided, the applicant needs to develop monitoring and mitigation plans similar to what is being done for site 42SV 2492 and others.

R645-301-411.140, The application needs to describe coordination efforts with and present evidence of clearances by the State Historic Preservation Office for the sites in the proposed addition to the permit area that are considered eligible for inclusion in the National Register of Historic Places. Based on its consultations, the Division may make requirements to protect these sites through appropriate treatment and mitigation.

FISH AND WILDLIFE PROTECTION PLAN

Regulatory Reference: R645-301-333

Analysis:

Protection and Enhancement Plan

The existing mining and reclamation plan contains commitments to protect wildlife from the adverse effects associated with mining. Underground mining is likely to have little if any effect on most species on the plateau, including deer, elk, and sage grouse.

Endangered and Threatened Species and Bald and Golden Eagles

Four eagle nests and one falcon scrape shown on Plate 3-3 are in the subsidence area shown on Plate 5-10. The current mining and reclamation plan says in Section 3.3.3.3 that any raptor nest that might be disturbed by subsidence will be evaluated by Wildlife Resources and the Fish and Wildlife Service. An appropriate plan of action will be developed on a case by case basis, and the applicant will obtain any permits necessary for disturbing the nest if this becomes necessary. The Division of Oil, Gas and Mining will be notified in advance. This plan is acceptable.

A golden eagle nest and a falcon scrape are on the north side of Muddy Canyon apparently in full view of the proposed breakout. They are about 3/4 mile from the breakout, and this is outside the buffer zone normally used for golden eagles. The application says if the scrape is still active at the time of construction, the breakout will be built outside the nesting period. This commitment is acceptable.

The Fish and Wildlife Information section of this analysis discusses potential effects of mining on the Link Trail columbine and monitoring requirements.

Three-toed woodpeckers, goshawks, and flammulated owls use Ponderosa pines and

other tree species in and near the area for roosting and nesting. However, it is unlikely trees would be affected by underground mining. The EIS concluded that individuals of these species could possibly be affected but that there would be no significant effects to the populations or to the species.

The mining and reclamation plan contains a survey for bats in the Link Canyon and Muddy Creek areas. The consultants that did this survey suggested that subsidence could affect roosting areas and that some individuals could be lost; however, they felt new cracks would offset the ones destroyed and that there would be little net effect. They believe there could be some impact on local populations of spotted bats. The report says if subsidence occurred in spring and summer it might cause reproductive females to carry young to another less favorable roost site. In the winter, torpid bats might not have time to arouse and escape during subsidence.

Subsidence could occur in these areas as a general lowering of the topography or it could cause sudden failure of some rock features. Bats would likely either be unaffected or would not have time to fly away to escape subsidence.

From the information in the report, the Division draws the following conclusions about bats:

- There are bats, including spotted bats, present in the general area although spotted bats may not be present in the upper part of Box Canyon.
- There are no known hibernacula, maternal roosting sites, or other areas of heavy concentration in the area that would be subsided.
- Cracks in rocks being used by bats could fail and kill or trap any animals using them, but since there are no known concentration areas, it is unlikely this would seriously reduce the local population. Generally, rock crevices and defective trees are used by only a few bats rather than large populations.
- It is possible that new habitat could be created, but this is also unlikely.

For these reasons, there should be no need to mitigate possible effects on bats or to do further monitoring.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

RECLAMATION PLAN

POSTMINING LAND USE

Regulatory Reference: R645-301-112

Analysis:

The applicant has proposed no changes to the postmining land uses of wildlife habitat and grazing.

Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

REVEGETATION PLAN

Regulatory Reference: R645-301-341

Analysis:

The applicant has proposed no changes to the revegetation plan which includes specific mention of the remote portals. These portals would be broadcast seeded with the standard seed mix. The only mulch specified in the plan is wood fiber hydromulch that would be used in hydroseeded areas, but it would probably be impossible to hydroseed or hydromulch most of the remote portals. The applicant needs to show what mulching methods, including the type of mulch and rate and means of application, would be used at the remote portals. Otherwise, the revegetation plan is acceptable.

Findings:

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must supply the following in accordance with:

R645-301-341, The applicant needs to show what mulching methods would be used at the remote portals, including the type of mulch, rate, and means of application.

RECOMMENDATIONS:

The application should not be approved until the deficiencies discussed in this memorandum have been adequately addressed.

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